

SHEKALOV, Aleksandr Alekseyevich, kand.tekhn.nauk; BLINOV, B.V., red.;  
SHILLING, V.A., izd.red.; BELOGUROVA, I.A., tekhn.red.

[New materials for permanent magnets] Novye materialy dlia  
postoiannykh magnitov. Leningrad, 1960. 19 p. (Leningradskii  
dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom.  
Seria: Pribory i elementy avtomatiki, vyp.8).

(MIRA 14:3)

(Magnetic materials)

L 15005-65 EWT(m)/EWP(w)/EWA(d)/EWP(t)/EWP(b) AS(mp)-2 MJW/JD  
ACCESSION NR: AT4047593 S/3117/60/000/01-/0140/0151

AUTHOR: Shekalov, A.A., (Candidate of technical sciences)

TITLE: Development of methods for increasing the magnetic properties of alloys for permanent magnets

SOURCE: Leningrad. Nauchno-issledovatel'skiy institut tokov vy\*sokoy chastoty\*. Trudy\*, no. 1-2, 1960, 140-151

TOPIC TAGS: alloy magnetic property, permanent magnet, alnico magnet/alloy ANKo-4, alloy ANKoTi

ABSTRACT: The author presents a rather detailed and broad-based discussion of Soviet and western (American, English, Dutch) efforts in the area of improving the magnetic properties of alloys designed for use in permanent magnets. Special attention is centered on the Soviet alloy ANKo-4 (alniko) and the corresponding western counterparts (in America they are called alnico V, VI and VII). These alloys are obtained by treatment in a magnetic field in the hot state (the so-called "permomagnetic treatment"). Specific comparisons are drawn between the Soviet alloys and the western makes, with the latter proving superior in a number of cases. The author sees the principal reason for the

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Soviet lag in the area of permanent magnets in the following factors: careless observance of the proper conditions of thermomagnetic processing (heating temperature, rate of cooling of the cast, and magnetic field intensity) and tempering of the articles, as well as the low quality of the basic burden materials, mainly iron and cobalt, used in the smelting. Each of these factors is considered in detail, with frequent references to practices and results current in the West. In the present article an effort is made to specify in detail the conditions for the manufacture of ANKo-4 and ANKoTi with a view towards obtaining magnets with an energy rating of up to 5 million gauss oersteds. Basic materials, compositions and production of alloys are considered in detail. Conditions of the experiment are described and the results of the study are discussed. Figures showing the microstructure of the alloys are presented and much information regarding the factors mentioned above is given in graph form. The maximum value of the magnetic energy in the magnet samples was 5.2 million gauss oersteds, which, as the author notes, is on a par with the properties of the best samples produced by western concerns. In the author's opinion, the next step should be the development of a technology applicable to the mass production of permanent magnets having this energy rating. Orig. art. has: 2 tables and 8 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut tokov vy\*sokoy chastoty\*, Leningrad  
(Scientific Research Institute for High-Frequency Currents)

Card 2/3

L 15005-65

ACCESSION NR: AT4047593

SUBMITTED: 00

ENCL: 00

0  
SUB CODE: MM, EM

NO REF SOV: 005

OTHER: 004

Card 3/3

SHEKALOV, Aleksandr Alekseyevich, kand. tekhn. nauk; MIKHAYLOV-  
MIKHAYEV, P.B., red.; SHILLING, V.A., red.izd-va;  
GVITS, V.L., tekhn.red.

[New alloys for cast permanent magnets] Novye splavy dlia  
litykh postoiannykh magnitov. Leningrad, 1963. 17 p. (Le-  
ningradskii dom nauchno-tekhnicheskoi propagandy. Obmen pe-  
redovym opytom. Seriia: Metallovedenie i termicheskaiia ob-  
rabotka, no.3) (MIRA 16:11)  
(Alloys) (Magnets)

ACCESSION NR: AR4014155

S/0137/63/000/012/1076/1076

SOURCE: RZh. Metallurgiya, Abs. 121506

AUTHOR: Shekalov, A. A.; Korsak, A. A.

TITLE: New high-coercivity alloy for permanent magnets

CITED SOURCE: Tr. N.-i. in-ta tokov vysokoy chastoty\*, vy\*p. 4, 1963, 82-96

TOPIC TAGS: Permanent magnet alloy, magnet grindability, cerium, vanadium

TRANSLATION: The alloy ANK0Ti-5i of the following composition was developed (in %): Co 34-38, Ni 15, Al 7.8, Cu 4, Ti 5-6, Fe, balance.  $H_c$  of the alloy is 1300-1500 Oe,  $B_r$  is 8500-8000 ga,  $(BH)_m$  is  $(4-5) \times 10^6$  ga Oe. The effect of 0.05-0.1% Ce and 0.1 and 0.5% V on the grindability of magnets was investigated. Ce improves the grindability, and V does not. The following treatment is recommended: hardening temperature  $1250 \pm 20^\circ$ , average rate of cooling in the  $1250-800^\circ$  range 150-200 deg/min, isothermal thermomechanical treatment at  $800 \pm 10^\circ$ , 5-10 min with subsequent cooling in air, double tempering at  $650 \pm 10^\circ$

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ACCESSION NR: AR4014155

for 5 hr and 550 $\pm$ 10<sup>0</sup> for 15-20 hr. B. Samarin.

DATE ACQ: 09Jan64

SUB CODE: ML

ENCL: 00

Card 2/2

S/120/63/000/001/015/072  
EO39/E420

AUTHORS: Gurevich, A.G., Starobinets, S.S., Men Hsiang-Chen,  
Safant'yevskiy, A.P., Shtreys, Ya.I., Shekalov, A.A.

TITLE: Apparatus for investigating ferromagnetic resonance  
PERIODICAL: Pribery i tekhnika eksperimenta, no.1, 1963, 73-77

TEXT: An apparatus for determining ferromagnetic resonance (FMR) in ferrites with narrow resonance curves in the 3 cm region and for a temperature range from -190 to +400°C is described. The sample is spherical (0.3 to 0.8 mm diameter) and is located in a rectangular resonator with a type TE<sub>106</sub> (TY<sub>106</sub>) oscillator. The magnetic field is provided by means of a permanent magnet with a shunt and modulating coils which enables a high accuracy to be obtained using a recorder. Temperature control of the sample is achieved by blowing either a hot or cold jet of gas over it. This apparatus permits the investigation of FMR curves with widths less than 0.5 Oe and up to about 50 Oe. The range can be increased by increasing the number of turns on the coil of the magnet system. Lower temperatures can be achieved either by pumping nitrogen or, for a much lower temperature, by using  
Card 1/2



I 60021-65 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) Pad IJP(c) MJW/JD/HW/JG

ACCESSION NR: AR5015190

UR/0137/65/000/005/I060/I060

SOURCE: Ref. zh. Metallurgiya, Abs. 51385 \*

35  
B

AUTHOR: Shekalov, A. A.

TITLE: New alloys for cast permanent magnets, 4

CITED SOURCE: Sb. dokl. na Vses. soveshchanii po litym splavam dlya postoyan. magnetov, 1962. Saratov, 1964, 3-16

TOPIC TAGS: permanent magnet, cast permanent magnet, magnetic property, coercivity, metal texture, metal structure, high coercivity alloy, hot working, metal physical property, magnet, crystalline grain structure, crystallinity, acicular crystal, cobalt base alloy, heat treatment, iron containing alloy, nickel containing alloy, aluminum containing alloy, copper containing alloy, titanium containing alloy, cerium containing alloy, ANKoTi5i alloy, ANKo Ni11 alloy

TRANSLATION: The article gives the magnetic characteristics of the following high coercivity alloys developed in the NIITVCh im Vologdina: alloy ANKoTi5i

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ACCESSION NR: AR5015190

with a magnetic texture and alloy ANKoNi11 with a magnetic and crystalline texture. The properties of the alloys are, respectively:  $B_r$  8000-8500 and 12,500 - 13,500 gauss;  $H_c$  1500-1300 and 650-800 oersteds;  $(BH)_{max}$  4.0-5.0 and 6.0-8.0 million gauss-oersteds. A special furnace with induction heating was developed for producing ingots with a crystalline grain structure. Technology was developed for production of magnets in the form of a horseshoe with acicular crystals by hot working of rod shaped billets. Alloy ANKoTi5i, outstanding for a high value of  $H_c$ , contains 34-38% cobalt, 15% nickel, 7.8% aluminum, 4% copper, 5-6% titanium, 0.05-0.1% cerium, and the remainder iron. The distinguishing feature of its heat treatment is isothermal holding in a magnetic field at 800C and subsequent annealing. (From R. Zh. Elektrotehnika).

SUB CODE: MM, EM

ENCL: 00

Card 2/2 *slip*

ACC NR: AR6029514

SOURCE CODE: UR/0137/66/000/006/I089/I089

AUTHOR: Shekalov, A. A.

TITLE: Isothermal treatment of YuNDK24 alloy in a magnetic field

SOURCE: Ref. zh. Metallurgiya, Abs. 6I626

REF SOURCE: Tr. Vses. n.-i. in-ta tokov vysokoy chastoty, vyp. 6, 1965, 110-113

TOPIC TAGS: <sup>alloy,</sup> metal heat treatment, thermomagnetic effect / YuNDK24 alloy

TRANSLATION: For the following optimum isothermal treatment, a YuNDK24 alloy (24% Co, 14% Ni, 8% Al, 3% Cu, remainder Fe) had a  $B_p$  of 12,500-13,000 gauss,  $H_c$  of 600 oe and  $(BH)_{max}$  of  $4.5-5 \cdot 10^6$  gauss-oe: heating to 1300°C, cooling to 840°C at a rate of 100-200 deg/min, isothermal holding in a magnetic field at 840°C for 2 min, subsequently cooling to room temperature at a rate of 20-60 deg/min, and tempering at 600°C for 4 hr + 550°C for 8 hr. According to the absolute values of these properties it did not yield better properties than those obtained by an ordinary thermomagnetic treatment. (From RZh. Mash.).

SUB CODE: 11,13

UDC: 621.789:669.15

Card 1/1

12 Jan 1969

SOURCE CODE: UR/0137/66/000/006/I061/I061

AUTHOR: Shekalov, A. A.

TITLE: Magnetic and mechanical properties of ANKoTi5i type alloys

SOURCE: Ref. zh. Metallurgiya, Abs. 61416

REF SOURCE: Tr. Vses. n.-i. in-ta tokov vysokoy chastoty, vyp. 6, 1965, 148-160

TOPIC TAGS: magnetic property, mechanical property, cooling rate / ANKotTi5i alloy

TRANSLATION: A study was made of alloys with 34-36% Co and 5-6% Al, containing up to 0.3% Ce, S, Ca, Li, and Zr, as well as 0.1% additions of an alloy containing 37.5% Nb and 62.5% Ru. The effect of cooling rate  $V_{cool}$  from upper (1250-1800°C) and lower (800-

-20°C) temperature ranges and the possibilities of using low temperature heating (800-900°C) for isothermal treatment in a magnetic field were investigated. The optimal value of  $V_{cool}$  in the 1250-800°C range was 200-220 deg/min. The following low tempera-

ture heat treatment was recommended for use in the alloys: fast heating to 820-850°C, minimum holding at this temperature and subsequent heat treatment according to a standard cycle for high temperature heating. The best effect resulted from Ce, which in a quantity of 0.1% raised the bend strength 20-30%, improved the polishability and did not change the magnetic properties of the alloys. A. Rabin'kin.

SUB CODE: 11, 13

Card 1/1

UDC: 669.15.018.588

Category : USSR/Solid State Physics - Mechanical Properties of Crystals and Crystalline Compounds 2-9

Abs Jour : Ref Zhur -- Fizika, No 3, 1957, No 6814

Author : Vul'f, B.K., Shokalov, N.F.

Title : Strengthening of Aluminum and Magnesium Based Alloys by Triple Metallic Compounds

Orig Pub : Izv. Sektora fiz.-khem. analize IONKh AN SSSR, 1956, 27, 196-208

Abstract : A study was made of the influence of triple metallic compounds on the mechanical properties of light alloys for the purpose of determining the possibility of obtaining a similar type of alloy for practical use. Results are given on the investigation of the following systems: Al-Cu-Mg, Al-Mg-Zn, Al-Cu-Ni, Al-Cu-Mn, Al-Mn-Ni, Mg-Cu-Zn, Mg-Ca-Zn, Mg-Al-Li. It is shown that the addition of triple metallic compounds in cast aluminum and pressed magnesium alloys increases their hardness and strength. The plasticity of the alloy diminishes with increasing content of the triple compound one observes in hard silver or magnesium an increase

Card : 1/2

Card : 2/2

Category : USSR/Solid State Physics - Mechanical properties of  
Crystals and Crystalline Compounds

E-9

Abstr Jour : Ref Zhur - Fizika, No 3, 1957, No 214

in the hardness of the heat treated alloys upon aging.  
Good mechanical properties were exhibited by alloys of  
aluminum with 7.5% Al-Cu-Mg. The greatest strength was ob-  
tained for a magnesium alloy with 19.4% Al<sub>2</sub>gLi. A pressed  
magnesium alloy with 4 -- 5% Mg<sub>2</sub>Ca<sub>2</sub>Zn<sub>4</sub> has high plasticity.  
Bibliography, 27 titles.

Card : 2/2

SHEKELYAN, I.A.

Eight hundred and thirty-three centners of corn stalks and thirty-eight centners of shelled corn to the hectare. Nauka i pered.op.v sel'khoz. 7 no.7:25 JJ '57. (MLRA 10:8)

1.Glavnyy metodist pavil'ona "Severo-vostochnyye oblasti".  
(Chuvashia--Corn (Maize))

SHEKELYAN, Ivan Adamovich, rabotnik pavi'l'ona,; CHERNOV, A.A., red.;  
MATVEYEV, A.P., tekhn. red.

[Northeastern provinces of the RSFSR] Severo-vostochnye oblasti  
RSFSR. Moskva, Izd-vo "Sovetskaya Rossiya," 1958. 69 p. (MIRA 11:12)  
(Agriculture)



SHEKELYAN, I., agronom

Obtaining 1000-1400 centners of corn stalks per hectare. Nauka 1  
pered. op. v sel'khoz. 8 no.8:16-17 Ag '58. (MIRA 11:10)  
(Corn (Maize))

SHEPARD, J. J.

An assured corn yield. Inform. Ref. VDNKH No. 501-2 My '64. (MIRA 18:5)

1. Glavnyy metodist pavil' na "Kukuriza" na Vystavke dostizheniy  
narodnogo khozyaystva SSSR.

SHEKERDZHIEV, L.

They called them "mathematicians" in the school. Nauka i tekhnika  
14 no.4:10-11 Ap '62.

KANEV, St. [Kanev, St.]; STOIANOV, V. [Stoltenov, V.]; ~~SHKEREZHISKI, V.~~  
[Shkeredzhiski, V.].

Highly-sensitive photoresistance and photoelements of sintered CdS  
and certain reversible processes of their aging. Acta physica vol  
25 no.3:313-321 Apr '64.

. Bulgarian Academy of Sciences, Institute of physics, Sofia.

KANEV, S. [Kunev, S.]; STOJANOV, V. [Stoianov, V.]; SEKERDZHIJSKI, V.  
[Shekerdzhiski, V.]

New highly sensitive photoresistor from sintered cadmium sulfide.  
Doklady BAN 17 no.3:231-234 '64.

1. Vorgelegt von Akademiemitglied G.Nadjakov [Nadzhakov, G.].

RYB N, A. [1964, v. 1, p. 148], A. [1964, v. 1, p. 148], A. [1964, v. 1, p. 148], A. [1964, v. 1, p. 148].

possibilities of using in treatment of aluminum sulfide as a carrier of nitrogen molecules. Doklady BAN  
17 no. 5: 227-228, 1961

1. [1964, v. 1, p. 148] and [1964, v. 1, p. 148].

ACCESSION NR: AP4040357

P/0045/64/025/003/0313/0321

AUTHOR: Ky\*nev, St.; Stoyanov, V.; Shekeredzhiski, V.

TITLE: High-sensitivity photoconductive and photoelectric cells made of sintered CdS and some reversible aging processes in them

SOURCE: Acta physica polonica, v. 25, no. 3, 1964, 313-321

TOPIC TAGS: photoconductive device, photoelectric cell, sintered cadmium sulfide, photoelectric cell aging, reversible aging, CdS

ABSTRACT: The authors have developed a simple and rapid method for preparation of CdS pellets by sintering under pressure of several hundred kg/cm<sup>2</sup> and subsequent heating for half an hour in argon at 900C. The cadmium sulfide produced by Soviet industry for luminescence was used. The admixture of cadmium sulfate enters during sintering into the reaction  $\text{CdS} + \text{CdSO}_4 = 2\text{Cd} + 2\text{SO}_2$ . The precipitated cadmium serves as donor. By adding a certain amount of copper acting as acceptor, the resistivity of the specimen is increased to several hundred M ohm.cm; the photosensitivity is increased accordingly. The permissible applied voltage increases with the increase of the sintering time. A typical example of performance

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ACCESSION NR: AP4040357

is 250 amp/cm<sup>2</sup> at 500 lux and 5 v. The prepared photoconductive cell ages under illumination, but heating for a few tens of seconds restores the original properties. The observed phenomena are interpreted in terms of acceptor-donor and interactions. Orig. art. has: 10 figures.

ASSOCIATION: Bolgarskaya Akademiya nauk, Fizicheskiy Institut, Sofia (Bulgarian Academy of Sciences, Physics Institute)

SUBMITTED: 02Jul63

ENCL: 00

SUB CODE: EC

NO REF SOV: 001

OTHER: 014

Cord 2/2



SHEKEROV, Iordan

Approximation of prices to the cost of commodities, and  
changes in price correlations. Trud tseni 6 no. 3:65-74  
'64.



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(100 100)

SPIN/15/10/1

KRYLOVA, I.V.; SHEKHARALOVA, V.I.; KOBOZEV, N.I.

Catalysis and luminescence. Part 2. Catalysis and extinction in  
superdiluted layers. Zhur. fiz. khim. 30 no.10:2282-2289 0 '56.  
(MLA 10:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.  
(Luminescence) (Catalysts) (Silica gel)

SHEKHALEVICH, G. D.

PA 13/49T64

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USSR/Electricity  
Fuel - Conservation  
Electricity - Conservation

Feb 48

"Let Us Strive to Decrease the Waste of Electric  
Power and Fuel," G. D. Shekhalevich, 2 3/4 pp

"Med Prom SSSR" No 2

Medical industry has been ordered to cut fuel  
consumption by 11% and electricity by 12%.  
Discusses how this task is to be accomplished.  
Cites measures adopted at various plants.

13/49T64

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SHEKHALEVICH, G.D., inzh.

For proper organization of the repair of electric equipment.  
Prom. energ. 13 no.5:4-6 My '58. (MIRA 11:8)  
(Electric machinery--Maintenance and repair)

8(6)

SOV/91-50-0-31/33

AUTHOR:

Shekhalevich, G.D.

TITLE:

A Review of the "Power Engineer's Reference Book on City Power Plants, Electric Networks and District Heating Systems

PERIODICAL:

Energetik, 1959, Nr 9, p 38 (USSR)

ABSTRACT:

The author reviews the "Spravochnik energetika gorodskikh elektrostantsiy, elektricheskikh i teplovykh setey" (Power Engineer's Reference Book on City Power Plants, Electric Networks and District Heating Systems) by N.A. Savchenko, published by Izdatel'stvo Ministerstva kommunal'nogo khozyaystva RSFSR (Publishing House of the RSFSR Ministry of Municipal Economy), 1957. This book has a number of serious deficiencies. While the book was compiled, the Nauchno-issledovatel'skiy institut elektrotekhnicheskoy promyshlennosti - NIIEP - (Scientific Research Institute of the Electrical Industry) developed a unified series of asynchronous electric motors A2 and A02 which have 13 power

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SOV/91-59-0-31/33

A Review of the "Power Engineer's Reference Book on City Power Plants, Electric Networks and District Heating Systems"

ratings instead of the 14 previously used. This development was not considered by the author. The book does not contain reference on modern assembly methods, locating damages in equipment, eliminating damages, methods of testing transformers, motors, generators, lightning arresters, power meters and other electrical equipment. The chapters dealing with cable and open air transmission lines are incomplete, especially necessary calculation data are missing. Problems of heat conservation, automation of thermal and other processes were not considered. These deficiencies must be eliminated in a future edition.

Card 2/2



SHKHAPOV, " V.

SHKHAPOV, " V. -- "The Ecology of Rhombomys Opimus and Means of Combating Them." Sub 25 Dec 52, Acad Med Sci USSR. (Dissertation for the Degree of Candidate in Biological Sciences).

SO: Vechernaya Moskva January-December 1952

SHEKHANOV, V.I.

SO: "Study of Diseases with Natural Foci" pub in Review of Eastern Medical Sciences, Munich Germany, Jan-March 1956, Uncl.

Author discusses a summary rept by P.A. Petrishcheva of the Scientific Meeting of the Min of Health USSR, of the A'S USSR and of the Inst of Microbiology & Epidemiology, A'S USSR on the problems of local epidemiology & natural formation of foci of human diseases, pub in Meditinskiy Promyshlennost, No 3, 1955.

"Petrishcheva reported the Meeting's coverage of several diseases with natural foci:

**Endemic Rickettsioses.** Rickettsiae which produce infectious nephrosis-nephritis occur on the steppes (O. S. Korshunova), on the mountain plains in the southwest of the USSR (C. P. Piontkovskaya) and in wooded areas in the central USSR (I. M. Grokhovskaya). The rickettsial agent was designated as *Rickettsia pavlovskii*, by Korshunova, in honor of Academician Pavlovskiy. Spontaneous rickettsiosis was met in a natural state in wild rodents and ecto-parasites, Gammarids, Tetranychidae, Ixodidae and fleas. The resistance of the rickettsiae and the transferral to guinea pigs by the bite of the mite *H. glasgovi* was experimentally demonstrated by I. N. Grokhovskaya and O. S. Korshunova. Transphasic and transovarial transferral was demonstrated for the Ixodidae and Gammaridae (*H. glasgovi*) and transphasic transferral for the Tetranychidae. Spontaneous rickettsia reservoirs in the sandy desert of southeast Turkmenia were observed in the Ixodidae, *H. asiaticum* P. Sch. et Schl. (S. N. Kulagin, S. M. Shmayeva, M. V. Shekhanov, A. A. Pchelkina). Morphological data and cross reaction of the complement with various rickettsial antigens show the relationship of the causative agents of the rickettsioses to the mite typhus group. The pathogenicity for humans was not established.

KRYUKOVA, A.P.; SHOSHINA, M.A.; SUVOROVA, L.G.; SHEKHANOV, M.V.

Epizootic foci of Borovskii's disease in ~~Kars-Kum.~~ Vop.kraev., ob.  
i eksp.paraz. i med.zool. 9:25-31 '55. (MIRA 10:1)

1. Iz otdela parazitologii i meditsinskoy zoologii (zav. akad.  
Ye.N.Pavlovskiy) Instituta epidemiologii i mikrobiologii imeni  
N.F.Gamaleya (dir. - deystvitel'nyy chlen Akademii meditsinskikh  
nauk SSSR prof. G.V.Vygodchikov) Akademii meditsinskikh nauk SSSR.  
(KARAKUM--LEISHMANIOSIS) (GABRIIS) (MOTH FLIES)

ZHMAYEVA, Z.M.; KARULIN, B.Ye.; PCHELKINA, A.A.; SHEKILANOV, M.V.

Mammals as vectors of Rickettsia burneti - the causative agent of Q-fever. Dokl. AN SSSR 109 no.6:1127-1228 Ag '56. (MLRA 9:11)

1. Institut epidemiologii i mikrobiologii imeni N.F. Gamaleya Akademii Meditsinskikh nauk SSSR. Predstavleno akademikom Ye.N. Pavlovskim.  
(KAZAKHSTAN--Q FEVER) (RODENTS AS CARRIERS OF DISEASE)

USSR/Virology - Rickettsias.

E-5

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67007

Author : Kulagin, S.M., Zhmaeva, A.M., Shekhanov, M.V., Pchelkina, A.A.

Inst : -

Title : The Characteristic of Nidus of a Tick Rickettsiose in the South-East of Turkmenia.

Orig Pub : Zh. mikrobiol., epidemiol. i immunobiologii, 1957, No 7, 114-121

Abstract : The presence of ticks *Hyalomma asiaticum* naturally infected by rickettsias was established in one of the districts. The isolated rickettsia strains are pathogenic for guinea pigs, white rats, young white mice (weight not more than 10 grams) and chick embryos. These strains are morphologically close to *Dermacentor sibiricus*, *D. murinum*, *D. conori* and are different from the latter in their case toward polynuclearization. The authors ascribe the

Card 1/2

*Inst. Epidemiology & Microbiology in Samarkand AMS USSR*

SHKHKHANOV, M.V.

Geographical factors and conditions of the habit influenceing the  
reproduction of the greater gerbil. Biul. MOIP. Otd.biol. 62 no.5:  
116-117 S-O '57. (MIRA 10:11)  
(GERBILS)

SHEKHANOV, M.V.

Index of Soviet literature on rodents published during 1954-1956.  
Mat. k pozn. fauny i flory SSSR. Otd. zool. no.38:231-279 '60.  
(MIRA 14:3)

(Bibliography--Rodentia)

MISHCHENKO, N.K.; SHEKHANOV, M.V.

Role of farm animals in foci of tick-borne encephalitis in the  
northern part of Kalinin Province. Med.paraz.i paraz.bol. 29  
no.3:271-274 '60. (MIRA 13:12)  
(ENCEPHALITIS) (KALININ PROVINCE—TICKS)  
(PARASITES—DOMESTIC ANIMALS)



SHEKHANOV, M.V.; SUVOROVA, L.G.

Natural foci of cutaneous leishmaniasis in the southwestern  
part of Trukmenia. Med.paraz.i paraz.bol. 29 no.5:524-528  
S-O '60. (MIRA 13:12)

1. Iz otdela prirodnouchagovykh bolezney (zav. - prof. P.A.  
Petrishcheva) Instituta epidemiologii i mikrobiologii imeni  
N.F. Gamalei (dir. - prof. S.N. Muromtsev) AMN SSSR.  
(DELHI BOIL)

SHEKHANOV, M.V.; SUVOROVA, L.G.

Characteristics of natural foci of cutaneous leishmaniasis in  
western Turkmenistan. Vop.kraev.paraz.Turk.SSR 3:81-88 '62.  
(MIRA 16:4)

1. Institut epedemiologii i mikrobiologii imeni N.F.Gamaleya  
AMN SSSR, Moskva.

(TURKMENISTAN--DELHI BOIL)

(TURKMENISTAN --SAND FLIES AS CARRIERS OF DISEASE)

SHEKID, . . .

Index of Soviet literature on rodents, published in 1957-1959.  
Mat. k pozn. fauny i flory SSSR. Otd, zool. no.40:177-278 '65.  
(MIRA 18:9)

SHEKHANOV, S.M.

Some characteristics of the metastasis of medulloblastomas.

Vop.neirokhir. 22 no.6:46-47 N-D '58.

(MIRA 12:2)

1. Nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni  
institut neyrokhirurgii imeni akad. N.N. Burdenko AMN SSSR i  
kafedry neyrokhirurgii Tsentral'nogo instituta usovershenstvo-  
vaniya vrachey Ministerstva zdravookhraneniya SSSR.

(MEDULLOBLASTOMA, case reports,  
metastatic spreading (Rus))

SHEKHANOV, S.M.

X-ray examination of the spine in the diagnosis of tumors of the spinal cord in children. Vest. rent. 1 rad. 39 no.4:32-37 JI-Ag '64. (MIRA 18:7)

1. Institut neyrokhirurgii imeni Burdenko AMN SSSR i kafedra neyrokhirurgii (zav. - prof. A.A.Arendt) Tsentral'nogo instituta usovershenstvovaniya vrachey, Moskva.

NEKHOROV, A.M.

Changes in the composition of the cerebrospinal fluid and its  
dynamics in tumors of the spinal cord in children. Vop.neirokhir.  
8 no.4:51-59 J1-Ag '64. (MIRA 18:3)

1. Institut neyrokhirurgii imeni Burdenko (dir. - prof. A.I.  
Tsitunov); AMI SSSR i kafedra neyrokhirurgii (rav. - prof. A.A.  
Sukhotin) TSentral'noye instituta usovnennoy meditsiny Vsesoyuz, Moskva.

"Hristo Hristov, first Bulgarian professor of psychology" (p. 83) PHINODA  
(Bulgarska Akademiia Na Naukite) Sofiya Vol 2 No 3 Sept/Oct 1953

30: East European Acquisitions List Vol 2 No 3 Aug 1954

SHEKHANOVA, Elena, d-r

Krustnikov's theory accoring to the Pavlovian theory; 15th anniversary  
of Krustnikov's death. Izv. med. inst., Sofia Vol. 9-10:427-446 1954.

(BIOGRAPHIES,

Krustnikov, Nikola)



SHEKHANOVA, I.A.

Materials on the nutrition and growth of the young of some cyprinoid fishes in the Amur Basin. Mat. k pozn. fauny i flory SSSR. Otd. zool. no.32:491-503 '52. (MIRA 11:4)

1. Laboratoriya ikhtiologii Instituta zoologii Moskovskogo gosudarstvennogo universiteta.

(Amur Valley—Carp) (Fishes—Food)

Shekhanova, I. A.

✓ Use of phosphorus-32 for marking sturgeon fry. I. A.

Shekhanova. *Rybnoe Khoz.* 31, No. 11, 51-3(1055).  
 Fry can be kept for 1 to 2 hrs. in water contg.  $\text{Na}_2\text{HPO}_4$  or  $\text{K}_2\text{HPO}_4$  in concn. of 1-2 mc./l., or they can be given food with  $\text{P}^{32}$ . The  $\text{P}^{32}$  is concd. mostly in the skeleton but is also distributed in all soft tissues. It has been detected as long as 3 months after dosage. In 1953-4, 500 carp fry, 12-20 mm., were kept for 2 hrs. in an aquarium contg. 2  $\gamma$   $\text{P}^{32}$ /l. None was injured. After 77 days activity per 100 mg. tissue gave 77 impulses/min. over the background. If initial concn. is increased, traces will remain longer. Sturgeon fry were found to assimilate considerably less  $\text{P}^{32}$ . Sturgeon fry at the Kura Ind. Exptl. Sta. were raised by a combined method to 200-300 mg. weight when they were released into ponds of running water. They attained a weight of 1-2 g. In marking, the oligochaetes and daphines used for food were replaced by marked oligochaetes which were prepd. by feeding with dry yeast wetted with sol.  $\text{Na}_2\text{HPO}_4$  with calcd.  $\text{P}^{32}$  concn. 3-4 mc./g. oligochaetes. The activity attained was 100-200 impulses/min. after 48 hours when they were fed to the sturgeon. Ninety six thousand fry were taken from 6 basins and given 2 lots of marked oligochaetes weighing 2650 g. Almost complete assimilation of  $\text{P}^{32}$  may be expected. After 24 hrs. av. activity of single fry (held dorsal fin up) was 700 impulses per min. The fry were kept in basins. The controls were 1000 unmarked fry. After 1 month at an av. weight of 2 g., 72,500 were released into the Kura river. The activity was now 600 impulses min. Control fry weighed 4 g. Two days after release 2 marked fry were caught 2 km. above the release point. Subsequently, from June 25 to 27 catches were made with 25 m. trawls with 8 mm. mesh nets. On June 25 near the seashore 2 km. from the main channel 11 fry were caught of which 6 were marked. On June 27 near

*SHERHANOVA, I. A.*

the seashore 4-5 km. from the main channel 302 fry were caught of which 107 were marked. No marked fry were caught on June 28 in the river above the release point. Apparently the fry remain in or near area of release for 2-3 days. After 4-6 days they are found downstream having passed down the navigable channel. They are then found near the seacoast having sandstone-silt bottoms in an area of 25-27 km. in front of the river delta. Hugo Nilson

2/2

SHEKHANOVA, I. A.

Name : SHEKHANOVA, I. A.

Dissertation : Phosphorus metabolism in young carp and  
sturgeons; experiment using P<sup>32</sup>

Degree : Cand Biol Sci

Defended At : Acad Sci USSR, Inst of Animal Morphology  
imeni A. N. Severtsov

Publication Date, Place : 1956, Moscow

Source : Knizhnaya Letopis' No 6, 1957

SHEKHANOVA, I. A.

MD ✓ The possibility of assimilation of inorganic phosphorus from water by fish. I. A. Shekhanova. *Doklady Akad. Nauk S.S.S.R.* 106, 161-4 (1958).—Several varieties of carp immersed in water contg.  $\text{Na}_2\text{HPO}_4$  show a decided assimilation of the inorg. P. This occurs through the mouth-gill app. and through the skin-scale structures of the rest of the body. The highest concn. is found in gills and scales, but all other body organs show at least some  $\text{P}^{10}$  content, especially the blood and the digestive tract. All parts of the digestive tract take part in the assimilation, although the anterior part is most active. G. M. Kosciapoff

①

SEVERTSEV, A. A.

"Prognosis Metabolism in Young Carps and Sturgeons."

Dissertation defended for the degree of Candidate of Biological Sciences at  
the Inst. for the Morphology of Animals in A. N. Severtsev.

Defense of Dissertation (Jan-Jul 1957)

Sect. of Biological Sciences

Vest. AN SSSR, 1957, v. 27, No. 12, pp. 117-118

SHKHXANOVA, I.A.

Method for mass tagging of young sturgeons with radioactive phosphorus.  
Trudy.sov.Ikht.kom. no.8:327-331 ' 58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut morskogo rybnogo  
khozyaystva i okeanografii.  
(Fish tagging) (Phosphorus-Isotopes) (Sturgeons)

KARZINKIN, G.S., SOLDATOVA, Ye. V., SHEKHANOVA, I.A.

Some results of mass tagging of "nonstandard" young sturgeon  
with radioactive phosphorus. Migr.zhiv. no.1:27-40 '59.

(MIRA 13:6)

1. Vsesoyuznyy nauchno -issledovatel'skiy institut rybnogo  
khozyaystva.

(Sturgeon)



SHENK, I.A.

Some problems with regard to phosphorus metabolism in fish.  
Tracy VIII:G 44:60-77 '61. (VII: 74:11)

(Phosphorus metabolism)  
(Fishes--Physiology)

SHEKHANOVA, T. A. SHEKHANOVA, T. A.

12587. Ability of absorption of inorganic phosphorus from water in fishes. T. A. Shekhanova, Dokl. Akad. Nauk S.S.S.R., 1958, 106, 181-184; *Russk. Zh. Biol.*, 1958, Abstr. No. 78189. Experiments were carried out on 1 year old Carp fishes; 0.1-0.05 mg./l. and 20-200  $\mu$ C/l. of  $\text{Na}_2\text{H}^{32}\text{PO}_4$  were added to the medium. After a certain period of time the animals were killed and the content of  $^{32}\text{P}$  was determined in blood, scales, skin, bones, muscles, gills, mucosa of the mouth, different parts of the digestive tract, liver, spleen, kidneys and brain. The highest concn. was in the gills and the lowest in the bones, and kidneys. Most of the  $^{32}\text{P}$  entered the organism of the fish by way of the gills and mouth; a smaller amount through the surface of the body. Absorption of  $^{32}\text{P}$  occurs in the whole of the digestive tract mostly, however in the initial parts. There is some relation between the amount of  $^{32}\text{P}$  taken in by the fish and its concn. in the water. Temp. variations play no significant rôle. (Russian)  
G. FEGER

OTSEP, S.A. [deceased], kand.tekhn.nauk; ~~SHEKHAVTSOV~~, I.M., inzh.

Sanitary engineering facilities installed in experimental  
demonstration buildings in Moscow. Opyt stroi. no.8:119-147

'57.

(MIRA 11:1)

(Moscow--Sanitary engineering)

SHEKHAVTSOV, I.M.

Comminutors. Vod.i san.tekh. no.9:36-38 S '57. (MIRA 10:11)  
(Crushing machinery) (Sewage--Purification)

SHEKHAVTSOV, I.M., inzh.

Prestressed reinforced concrete pipes (from "Materialy budovlane,"  
no. 4, 1956). Biul. stroi. tekhn. 14 no. 12:31-33 D '57. (MIRA 11:1)

1. "Sentral'nyy nauchno-issledovatel'skiy institut stroitel'stva  
Akademii stroitel'stva i arkhitektury SSSR.  
(Netherlands--Pipe, Concrete)

SHEKHAVTSOV, I.M., inzh.

Agricultural water supply. Opyt stroi. no.17:49-93 '58.  
(MIRA 11:12)

(Water supply, Rural)

DERING, S.A., kand.med.nauk; SHEKHAYEV, O.V., vrach (g.Nikolayev)

Stable spasm of accommodation in diseases of the central nervous system.  
Oft.zhur. 15 no.7:426-431 '60. (MIRA 13:11)

(NERVOUS SYSTEM--DISEASES)

(EYE--ACCOMMODATION AND REFRACTION)

1. The first part of the document is a list of references.

2. The second part of the document is a list of references.

(1981 17:12)



TISHCHENKO, I.T.; PRIMAK, D.O.; SHEKHET, A.L.

Results of discharging patients in scarlet fever cases on the 14-15th day of the disease. Zhur.mikrobiol.epid.i immun. no.3:29-33 Mr '54.  
(MLRA 7:4)

1. Iz Kiyevskoy gorodskoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach F.I.Yuvzhenko) i kliniki detskikh infektsionnykh bolezney (zaveduyushchiy - professor A.V.Cherkasov) Kiyevskogo meditsinskogo instituta na baze 5-y Kiyevskoy detskoy infektsionnoy bol'nitsy (glavnyy vrach A.L.Shekhet). (Scarlet fever)

TISHCHENKO, I.T.; PRIMAK, D.O.; SILYAVKINA, A.N.; SOFIYENKO, N.Ya.;  
SHEKHET, A.L.; NEVIDNIKH, A.A.

Ways for decreasing and eradicating diphtheria in Kiev. Zhur.  
mikrobiol., epid.i immun. 32 no.12:106-109 D '61. (MIRA 15:11)

1. Iz Kiyevskoy gorodskoy sanitarno-epidemiologicheskoy stantsii  
i 5-y detskoy klinicheskoy infektsionnoy bol'nitsy.  
(KIEV--DIPHTHERIA--PREVENTION)

SHEKHETS, V.P.; LITYUGA, V.S.; ANTONOV, P.K.; KHLEVNYUK, S.S.

Semiautomatic machine for testing disk springs. Mashinostroitel'  
no.7:10 J1 '63. (MIRA 16:9)

(Springs (Mechanism)--Testing)

PECHKOVSKAYA, K.A.; SHEKHID-KHUZEMI, N.A.; ORLOVSKIY, P.N.; LIVSHITS, F.B.;  
NOVIKOVA, I.S.; BRYUSHKOVA, I.I.

Chemical and physicochemical methods for evaluating the quality  
of carbon black. Report no.2: Primary "structure" of carbon black.  
Kauch. i rez. 17 no.6:8-13 Je '58. (MIRA 11:7)

1.Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.  
(Carbon black)

SPENCER, V. I.

"Vitamin A and Carotene in the Blood of Children Suffering From Dysentery and Measles." Cand Med Sci, Leningrad State Pediatric Medical Inst, Leningrad, 1953. (RZhEiol, No 7, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)  
30. Sum. No. 556, 24 Jun 55

LAPAKHA, A.A.; SHEKHINA, N.I.

Total protein and gamma globulin content of the plasma in  
dysentery in infants. *Pediatrics* 38 no.1:39-43 '60.

(MIRA 13:10)

(BLOOD PROTEINS)

(GAMMA GLOBULIN)

(DYSENTERY)

LAPAKHA, A.A., kand.med.nauk; PIK-LEVONTIN, E.M., kand.biolog.nauk;  
SHEKHINA, N.I., kand.med.nauk

Salmonella infection in children, mainly in infants. *Pediatrics*  
no.2:16-21 '62. (MIRA 15:3)

1. Iz kafedry infektsionnykh bolezney u detey (zav. - prof. A.T.  
Kuz'micheva) Leningradskogo pediatricheskogo meditsinskogo insti-  
tuta (dir. Ye.P. Semenova) i Detskoy infektsionnoy bol'nitsy  
(glavnyy vrach K.A. Dudkina) Leninskogo rayona.  
(SALMONELLA) (INFANTS--DISEASES)

LAPAKHA, A. A., kand. med. nauk; SHEKHINA, N. I., kand. med. nauk

Effect of gamma globulin on the content of total protein in the  
plasma in dysentery in infants. *Pediatrics* no. 4:47-51 '62.  
(MIRA 15:4)

(DYSENTERY) (PLASMA PROTEINS) (GAMMA GLOBULIN)



SHKHNINOV, Ye.A.

Electric interlocking system with local couplings and a.c. current reserves. Avtom. telem. i svyaz' 8 no.1:28-30 Ja '64. (MIRA 17:3)

1. Nachal'nik Kurganskoy distantzii signalizatsii i svyazi Yuzhno-Ural'skoy dorogi.

L 0502L-12 EBF(j)/ET(m) IIP(c) JW/RM

ACC NR: AR6031253 (A) SOURCE CODE: UR/0081/66/000/011/S042/S042

AUTHOR: Lopatinskiy, V. P.; Shekhirev, Yu, P.; Sirotkina, Ye. Ye.

TITLE: Interaction of amines with vinyl esters. III. Vinylation of diphenylamine with vinyl acetate and the synthesis of the N-vinyl diphenylamine polymer

SOURCE: Ref. zh. Kimiya, Part II, Abs. 11S258

REF SOURCE: Izv. Tomskogo politekhn. in-ta, v. 126, 1964, 55-57

TOPIC TAGS: amine, vinyl ester, vinylation, diphenylamine, vinyl acetate, polymerization, diphenylamine polymer

ABSTRACT: The optimum conditions for the vinyl exchange between diphenylamines and vinyl acetate are provided when the reaction is carried out for 10 hours in an acetone solution in the presence of  $\text{HgSO}_4$  at 20C. The resulting N-vinyl diphenylamine polymerizes directly in this reaction medium, forming polymers during the vinyl acetate conversion of 90—100%. With a yield of 72—73%, a fraction is obtained which is insoluble in methanol and consists of a white amorphous powdered polymer with a molecular weight of 800—1050, and a melting point of 115—130C. The polymer is soluble in aromatic hydrocarbons, chlorobenzene, dioxane,

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L 05194-67

ACC NR: AR6031253

chloroform, and pyridine, only slightly soluble in methanol and ethanol, and insoluble in water. The specific volume resistance is  $10^{15}$  ohm/cm, dielectric permeability is 2.8 (at a frequency of  $10^5$  cps). The reaction under other conditions at 0, 10, 30, 40C and 4, 6, 8 hours in acetone and dioxane produces a polymer with a yield of 8—60%, while no reaction takes place in pyridine, ether, and nitrobenzene. Orig. art. has: 11 photographs. RZhKhim, 1966, 3Zh145. V. Kopylov. [Translation of abstract]

SUB CODE: 07/

kl.

Card 2/2

68888

24.3500

S/051/60/008/02/015/036

AUTHORS: Gross, Ye.F., Razbirin, B.S. and <sup>E201/E391</sup>Shekhmamet'yev, R.I.

TITLE: Investigation of the Reflection and Luminescence Spectra of Copper Halides at Low Temperature

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 2, pp 232 - 238 (USSR)

ABSTRACT: This paper is based on the results of the diploma work of B.S. Razbirin and R.I. Shekhmamet'yev carried out at Leningradskiy gosudarstvennyy universitet im. Zhdanova (Leningrad State University im. Zhdanov) in 1955-1957. The paper reports the results of an investigation of the diffuse reflection and luminescence spectra of CuI (Figures 1, 2), CuBr (Figures 3-5) and CuCl (Figure 6) crystals at 77 °K in the spectral region around the fundamental absorption edges of these three compounds (some of these results have been reported earlier, cf. Ref 8). The crystals were used in the form of sublimated layers deposited in vacuo on glass plates and in the form of fine-grained powders. Luminescence was excited with ultraviolet light from a mercury lamp SVDSH-1000:

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S/051/60/008/02/015/036

E201/E391

Investigation of the Reflection and Luminescence Spectra of Copper Halides at Low Temperature

for CuI and CuBr the 3 660 Å wavelength was used and for CuCl shorter wavelengths (3 100 - 3 500 Å) were employed. The reflection spectra were obtained using a continuous-spectrum source (an incandescent lamp). The reflection and luminescence spectra of the same sample were recorded by means of a quartz spectrograph Q-12 with 50 Å/mm dispersion in the 4 000 Å region. The results obtained can be summarized as follows:

1) The reflection and luminescence spectra of copper halides are similar. The positions of the long-wavelength absorption edges of CuCl, CuBr and CuI do not differ greatly. Reflection maxima identical with absorption lines are obtained for all these crystals in the region of the absorption edge. The luminescence spectra of the three crystals have groups of narrow lines, of which those lying at shorter wavelengths coincide with the appropriate absorption lines. The luminescence spectra contain also wide bands at longer wavelengths;

2) Adsorbed gases affect strongly the structure of the

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S/051/60/008/02/015/036

E201/E391

Investigation of the Reflection and Luminescence Spectra of Copper Halides at Low Temperature

luminescence and reflection spectra of CuI and CuBr crystals. After adsorbed gas is removed the luminescence and reflection spectra recover their original form (this process can be repeated many times);

3) The luminescence spectra of CuI and CuBr contain groups of equidistant lines similar to those observed in other semiconducting crystals (CdS, CdSe, ZnS, ZnO, etc);

4) The results obtained indicate that the short-wavelength weak luminescence lines of CuI, CuBr and CuCl, which coincide with absorption lines and are not greatly affected by surface treatment, are due to processes occurring in the crystal lattice. The long-wavelength strong luminescence lines, which are very sensitive to surface treatment, are due to some processes occurring at the surface. There are 6 figures and 12 references, 6 of which are Soviet, 3 English and 2 French, 1 German.

SUBMITTED: June 3, 1959

Card 3/5

20138

9,3140 (3rd 1138, 1140)

S/8/5/003/002/036/050  
B'02/3201

26.2421

AUTHOR: Shekhmamet'yev, R. I.

TITLE: Low-temperature luminescence and absorption of  $\text{BiI}_3$  crystals

PERIODICAL: Fizika tverdogo tela. v 3. no. 2, 1961, 581-584

TEXT: The principal results from a number of studies are discussed (study of the dependence of the structure of the fundamental absorption edge on temperature, impurities and conductivity of  $\text{BiI}_3$ , position at room temperature at about 680 mμ, shift toward shorter waves with dropping temperature; at nitrogen temperature the edge lies at about 610 mμ, absorption coefficient  $10^5 \text{ cm}^{-1}$ ; impurities had no effect; assumption of the short-wave bands being correlated with exciton absorption, and the band at 6395 Å with impurity absorption; investigation of optical and photoelectrical properties; fine structure of the spectral distribution of photoconductivity, etc.). A report is then given on the results of the author's own investigations. These included the examination of  $\text{BiI}_3$  single crystals and fine-crystalline layers, the latter being sublimated at 200°C in a glass ampul ( $p = 5 \cdot 10^{-2} \text{ mm Hg}$ ), while the single crystals were bred from the gaseous phase (platelets.  $5 \times 4 \text{ mm}^2$  large

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B\*02/B20\*

Low-temperature luminescence

and ~50  $\mu$  thick); the optical axis was in perpendicular to the platelet plane. The form of the absorption spectrum was a function of the specimen thickness. Thick layers and crystals had an absorption band at about 639  $m\mu$  (3  $m\mu$  width); with decreasing specimen thickness the absorption edge shifted toward the shorter-wave region, and a broad band was observable at 591-625  $m\mu$ . A sharp maximum was noted at 611  $m\mu$  (width 2  $m\mu$ ). Thinner layers displayed a still sharper band at 579  $m\mu$  (width 4  $m\mu$ ). No short-wave structure was observable on crystals because of the large absorption coefficient. All of the single crystals showed the band at 639  $m\mu$ , which became less distinct with decreasing thickness. Some of the fine-crystal-line layers exhibited an absorption band at 628  $m\mu$ . The spectra of diffuse reflection, which were likewise examined had the following minima at 77°K: 582  $m\mu$ , 600-625  $m\mu$ , and 639  $m\mu$ ; some of the specimens had also a minimum at 628  $m\mu$ . A further argument for the existence of a short-wave structure in the absorption spectrum of single crystals is the appearance of peaks of photoconductivity in these regions. The curves of spectral distribution of photoconductivity at 77°K display maxima at around 573 and 611  $m\mu$ . UV-excited fine-crystalline  $BiI_3$  layers at 77°K displayed luminescence in the

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S/18/6/003/002/036/050  
B102/B201

Low-temperature luminescence . . .

absorption edge region. On excitation through a green filter, luminescence intensity rose considerably. The luminescence spectrum has the following bands at 77°K: 626-630 mμ, 641 mμ (638-643 mμ), 651 mμ (649-654 mμ), and 663 mμ (659-667 mμ). Single crystals bred directly from BiI<sub>3</sub> powder displayed no luminescence; if, however, they were subjected to recrystallization (whereby purer and finer single crystals were obtained), luminescence did appear, with the spectrum being equal to that of fine-crystalline layers. Investigation results proved the relationship between edge emission and the structure of the fundamental absorption edge. Ye. F. Gross, Corresponding Member AS USSR is finally thanked for advice and discussions. There are 2 figures and 16 references: 7 Soviet-bloc and 8 non-Soviet-bloc. J

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: June 23, 1960

Card 3/3

GROSS, Ye.F.; SHEKHIMAMET'YEV, R.I.

Connection between edge luminescence and the structure of the basic  
absorption edge. Fiz. tver. tela 3 no. 3:889-894 Mr '61.

(MIRA 14:5)

1. Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova.  
(Absorption of light) (Luminescence)

29679

S/181/61/003/010/028/036  
B125/B102

243500 (1137, 1138)

AUTHORS: Gross, Ye. F., and Shekhmamet'yev, R. I.

TITLE: Complex structure of excitation spectra of luminescence of  
HgI<sub>2</sub> and PbI<sub>2</sub> crystals

PERIODICAL: Fizika tverdogo tela, v. 3, no. 10, 1961, 3162 - 3166

TEXT: The authors determined the excitation curves for luminescence of  
HgI<sub>2</sub> crystals and of sublimed PbI<sub>2</sub> layers at T = 77°K. According to

V. A. Arkhangel'skaya and P. P. Feofilov (DAN SSSR, 108, 803, 1956; Opt.  
i spektr., II, vyp. 1, 1957), the intensity of each luminescence band of  
an HgI<sub>2</sub> crystal is in different ways a function of the intensity of the  
light source. The first series of HgI<sub>2</sub> crystals has been grown in the  
authors' laboratory by K. F. Lider who employed slow crystallization from  
a solution of HgI<sub>2</sub> in acetone. A second series of specimens was grown  
from the gaseous phase. Fig. 1 shows the luminescence intensity of HgI<sub>2</sub>  
crystals as a function of the exciting wavelength at T = 77°K. No  
Card 1/6 3

29699

S/181/61/003/010/028/036

B125/B102

Complex structure of...

absorption lines correspond to the apparent peaks at 5360 and 5280 Å ( $\pm 20 - 30$  Å) found on the excitation curve 2. The structure of the excitation curve for red luminescence of the same  $\text{HgI}_2$  crystals was found to be hardly influenced by surface treatment. The various luminescence bands correspond to various crystal centers. The yellow-green and the red luminescence are closely related to the exciton absorption lines. Fig. 2 shows the excitation curves for red luminescence of an  $\text{HgI}_2$  single crystal at  $T = 77^\circ\text{K}$ . For excitation with EHC the peak at 5330 Å does not appear on the excitation curve. For EIC the peaks at 5330 and 4932 Å will occur. The latter is due to incomplete polarization of the absorption line

$\lambda = 4932$  Å. The authors also investigated the excitation spectrum of the low-temperature luminescence of various  $\text{PbI}_2$  crystals. The specimens were sublimated at  $\sim 400^\circ\text{C}$  upon a glass backing. The spectral lines found are curved, deformed, and are shifted relative to the absorption line  $\lambda = 4948$  Å of  $\text{PbI}_2$  single crystals toward the short-wave region of the spectrum. The

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S/181/61/003/010/028/036  
B125/B102

Complex structure of...

results of this paper point to a close connection between broad luminescence bands of  $\text{HgI}_2$  and  $\text{PbI}_2$  crystals and the structure of the self-absorption edge. The maxima and minima of the luminescence excitation curves could correspond to lines with exciton structure. The authors' experiments have shown that excitons play an essential part in the luminescence excitation of crystal centers and defects. There are 3 figures and 8 references: 6 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: S. Nikitine et G. Perny. C. R., 240, 64, 1955; S. Nikitine, Phil. Mag., 4, 1, 1959.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova  
(Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: June 2, 1961

X

Card 3/6-7

33360

S/181/62/004/001/033/052

B104/B102

24,3500 (1137, 1138, 1144)

26.2421

AUTHORS: Gross, Ye. F., Razbirin, B. S., and Shekhmamet'yev, R. I.

TITLE: Spectral distribution of the excitation of edge luminescence of CdS crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 1, 1962, 213 - 216

TEXT: The authors studied the excitation spectrum of green luminescence of CdS crystals at 77°K. An incandescent lamp whose light fell on the crystal surface through a monochromator with an angle of 50 - 80° served as light source. According to the shape of their luminescent excitation curves the CdS crystals can be divided into two groups. In the first group the maxima of the excitation curves of green luminescence coincide with the absorption lines of the crystals. In the second group the minima of these curves coincide with the absorption lines. If a crystal of the first group is heated to 250°C and then rapidly cooled in liquid nitrogen it then belongs to group two. By heating crystals of the second group they could not be transformed into crystals of the first group. Due to these heat treatments only the minima became more shallow and the short-wave part of the luminescence excitation curve became more intense. This property of the CdS

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33360

S/181/62/004/001/033/052  
B104/B102

Spectral distribution of the excitation...

crystals is explained by the fact that photoconductivity and luminescence are produced by the excitons. The maxima and minima of the excitation curves and their behavior on heat treatment is related to the annihilation (recombination) of excitons. B. V. Novikov (FTT, 1, 357, 1959; ZhTF, XXVIII, 782, 1958) is mentioned. There are 2 figures and 8 references: 2 Soviet and 6 non-Soviet. The two references to English-language publications read as follows: C. C. Klick, Phys. Rev., 86, 659, 1952; 89, 274, 1953; D. Batton, J. Phys. a. Chem. Sol., 6, 101, 1958.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: August 3, 1961

Card 2/2

X

S/181/63/005/002/018/051  
B104/B102

AUTHORS: Gross, Ye. F., and Shekhamet'yev, R. I.  
TITLE: Study of the excitation spectrum of the edge luminescence  
of copper halides

PERIODICAL: Fizika tverdogo tela, v. 5, no. 2, 1963, 502-505

TEXT: The object here is to bring out a relationship between the edge luminescence and the exciton absorption lines in the absorption spectrum of crystals. The luminescence excitation spectra of polycrystalline CuI, CuBr and CuCl layers were studied at 77°K in the region of exciton absorption. The specimens were produced according to Gross et al. (Opt. i spektr., VIII, 232, 1960). The luminescence was excited by the monochromatic light of an incandescent lamp and recorded spectrally. Resolution was such that lines of 15 to 20 Å width could be separated. Results: the edge luminescence of the copper halides is connected with the exciton absorption lines. These lines correspond to the minima of the luminescence excitation curves. The fact that the exciton absorption lines do not correspond to the maxima of the luminescence excitation curves

Card 1/2



Study of the excitation spectrum ... S/181/63/005/002/018/051  
B104/B102

is ascribed to the high defect concentration. There are 3 figures.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet  
(Leningrad State University)

SUBMITTED: August 27, 1962

Card 2/2

ACCESSION NR: AP4039660

S/0181/64/006/006/1724/1728

AUTHORS: Shekhmamet'yev, R. I.; Novikov, B. V.

TITLE: Excitation spectra of photoconductivity and edge emission in CdS crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 6, 1964, 1724-1728

TOPIC TAGS: excitation spectrum, photoconductivity, edge emission, cadmium sulfide, modulated excitation, monochromatic illuminator UM 2, spectrograph ISP 51, photoelectric attachment FEP 1, amplifier 28 IM

ABSTRACT: Excitation spectra of edge emission and of photocurrent in CdS crystals were studied at modulated and unmodulated exposures at a temperature of 77K. It was desired to compare the characteristics of photoconductivity and excitation of edge emission in a single specimen. The excitation of green emission was produced by means of a monochromatic illuminator UM-2; the source of light was an incandescent lamp; and the exciting radiation fell at an angle of 10-15°. For recording the spectrum the apparatus used included a spectrograph ISP-51 with photoelectric attachment FEP-1, which gave a good resolution in the narrow ranges of emission of 20-30 Å. The spectrum of excitation of photoconductivity was measured both at

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ACCESSION NR: AP4039660

stationary and unmodulated exposures. At stationary exposure the photocurrent was registered by an electrometric amplifier. Registration of photocurrent at modulated exposure was accomplished with an amplifier 26-IM. The signal was recorded by a mirror galvanometer with photopaper attachment. The modulation of light was produced by a rotating disk with a notch cut in it. The frequency of modulation was 600-900 cps. In the spectra of excitation of edge emission the lines of excitation corresponded to maxima in the spectrum for sample 3 and to minima for sample 43. In the spectra of excitation of photocurrent at unmodulated exposure the lines of absorption corresponded to minima in both specimens. The authors thank Ye. F. Gross, associate member of the AN SSSR, for his valuable comments. Orig. art. has: 1 figure.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: 29Dec63

ENCL: 00

SUB CODE: SS

NO REF SOV: 008

OTHER: 009

Card 2/2

SHEKHMAN, I. A.

PA 241T93

USSR/Physics - Magnetic Resonance

Jul/Aug 52

"Gyromagnetic Resonance in Nickel on a 10-cm Wave Near  
the Curie Point," I. A. Shekhman, Moscow Power Engr  
Inst imeni Molotov

"Iz Ak Nauk, Ser Fiz" Vol 16, No 4, pp 498-509

Attempts to develop method for detg magnetic per-  
meability of substance within cm band and applies it  
to measurements of resonance absorption in Ni near  
the Curie point. Indebted to K. M. Polivanov.

241T93



MEL'NIKOV, N.V.; SHEKHMESTER, Sh.Ya., gornyy inzh.; MEL'NIKOV, V.N.,  
gornyy inzh.

Plan for strip mining in the Akkermanovka iron ore deposit.  
Gor. zhur. no.4:14-17 Ap '61. (MIRA 14:4)

1. Institut gornogo dela AN SSSR, Lyubertsy Moskovskoy obl.,  
chlen-korrespondent AN SSSR (for Mel'nikov). 2. Giproruda, Leningrad  
(for Shekhmester). 3. Orsko-Khalilovskiy metallurgicheskiy kombinat  
(for Mel'nikov). (Akkermanovka—Iron mines and mining) (Strip mining)

SHEKHMEYSTER, Sh.Ya., gornyy inzhener; BOGACHEV, A.F., gornyy inzhener

Technology of boring and blasting operations in using continuous  
equipment in open pits. Ger. zhur. no.3:8-12 M. '63. (MIRA 10:4)

1. Gosudarstvennyy institut po proyektirovaniyu gornyykh predpriyatiy  
zhelezorudnoy i margantsevoy promyshlennosti i promyshlennosti ne-  
metallicheskikh iskopayemykh, Leningrad.

SHKOLNITSKY, Sh.Ya., gornyy inzh.; MEL'NIK, L.A., gornyy inzh.

Engineering standards of the strip mining of iron ore. Gor.zhur.  
no.1124-27 Ja '65. (MIRA 1813)

1. Gosudarstvennyy soyuznyy institut po proyektirovaniyu predpriyatiy  
gornoy promyshlennosti, Leningrad.



Glenn B. Lindell, Ph.D.

Cand. Chem. Sci

Dissertation: "Active Centers During Oxidation of Hydrogen Sulfide and Ammonia." 13/11/59

Moscow Order of Lenin State University N. V. Lomonosov

SO Vecheryaya Moskva  
Sum 71

USSR/Chemistry - Catalysts

May 52

"Active Centers and Mechanism of the Oxidation of Sulfur Dioxide," V. I. Shekhopalova, I. V. Krylova, N. I. Kobozov, Moscow State University M. V. Lomonosov

"Zhur Fiz Khim" Vol XXVI, No 5, pp 703-718

The elementary centers of the oxidation of sulfur dioxide are the monatomic ensembles Pt<sub>1</sub> and Pd<sub>1</sub>, no matter what the chemical nature of the catalyzing metal (i.e., Pt, Pd) and the carrier may be. The activity of the monatomic Pt ensemble does not depend very strongly on the nature of the carrier. The observed dependence of activity on the degree of filling of the carrier's surface is in

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accordance with the results of the theory of active ensembles. The carrier may affect activity by its geometric structure and its inhomogeneity of surface. The latter effect is apparent only when there is a high density of the catalyst layer on the surface. The fact that single Pt and Pd atoms are active proves the purely oxidative character of the process and refutes Wieland's dehydrogenation theory (i.e., hydration of sulfur dioxide followed by dehydration), because the action of diatomic ensembles is required by this theory.

21979

SHEKHOPALOVA, V.I

USSR/Chemistry - Catalysts

14 JV 52

"The Catalytic Oxidation of  $\text{SO}_2$ : II. The Kinetics of the Oxidation of  $\text{SO}_2$  in the Region of Atomic and Crystalline Films of Platinum and Palladium," V. I. Shekhtelova, I. V. Krylova and N. I. Kobozov, Moscow State U

"Zhur Fiz Khim" Vol 26, No 11, pp 1666-1672

The authors identified the active centers of Pt metal catalysts, during the oxidation of  $\text{SO}_2$ , beginning with very thin X-ray-amorphous films of Pt on silicagel, and ending with clearly crystalline catalysts. As characteristic properties, they singled

out the specific form of the kinetic law of  $\text{SO}_2$  oxidation and the magnitude of the energy of activation. They detected that the peculiar form of the kinetic law discovered for the catalytic oxidation of  $\text{SO}_2$  on Pt wire remains accurate for the thinnest Pt films on silicagel; also, that the oxidation of  $\text{SO}_2$  on Pd is also subject to this law. This was confirmed by the identical structure of the active centers of  $(\text{Pt}_1)$  and  $(\text{Pd}_1)$ . They detected that the energy of activation of  $\text{SO}_2$  oxidation on Pt is constant, beginning with very thin films of Pt on silicagel and ending with the crystalline catalyst; this energy was equal to 19,000 small calories. On Pd the energy of activation was equal to 27,000 small calories. To the authors, all the above demonstrated the identity of active centers in amorphous (atomic) and crystalline catalysts. In this case, the elemental active center is the single atom  $\text{Pt}_1$  or  $\text{Pd}_1$ , fixed by the surface of the carrier, whether silicagel or crystalline Pt. The authors conclude that the crystal phase of Pt has no practical effect on the character of the active centers, and therefore plays no determining role in the catalytic process.

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SHEKHOBALOVA, V.I.; GERASIMOV, Ya.I.; ORLOVA, N.S., tekhnicheskiy redaktor

[Refractometry; practical work in physical chemistry] Refraktometriia;  
prakticheskie raboty po fizicheskoi khimii. Pod red. IA.I.Gerasimova.  
[Moskva] Izd-vo Moskovskogo universiteta, 1954. 22 p. (MIRA 8:3)  
(Refractometry)